



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,511	08/14/2002	Paul Harvey	P.19503/MAJR	4549
7590	10/04/2004		EXAMINER	
Jennifer P Yancy Jones Tullar & Cooper PO Box 2266 Eads Station Arlington, VA 22202			ANDERSON, MATTHEW A	
			ART UNIT	PAPER NUMBER
			1765	

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/088,511	HARVEY ET AL.
	Examiner Matthew A. Anderson	Art Unit 1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 8-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 8-14 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 14 August 2002 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 3/29/2002.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Objections***

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 33-39 have been renumbered 8-14, respectively.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a

later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Downey et al. (US 5,762,891) in view of Krause et al.(US 5,820,966).

Downey et al. discloses the method of removing arsenic from an arsenic containing concentrate or ore. (see abstract) The concentrate can also contain useable metals such as Copper (see col. 8 lines 41-46). The arsenic is precipitated and removed as ferric arsenate. The conditions used are disclosed in col. 8 lines 1-5 as from 1.5 to 2.5 pH and temperature of 20-90 °C. The copper in the solution stays dissolved (col. 8 lines 40-50) and can be subject to further treatment to recover the copper. Col. 7 discloses the ratio of iron to arsenic be at least 2.5:1.

Downey et al. does not specifically disclose the use of a series of continuously stirred tanks.

Krause et al. discloses the removal of arsenic from solutions. The arsenic is precipitated as a stable ferric arsenate compound. Seeding occurs with recycled precipitate (ferric arsenate) seeds. (abstract) Fig. 1 suggests a series of stirred tanks open to the atmosphere. Table 2 of Krause et al. discloses the feed liquor to be treated as containing dissolved Cu. Neutralization occurs by addition of limestone (col. 3 lines 45-50).

It would have been obvious to one of ordinary skill in the art at the time of the present invention to combine the references because both detail removal of

ferric arsenate compounds from a solution containing Cu and suggest recovery of the Cu. Motivation is given as the removal of the environmentally damaging arsenic and the potential recovery of valuable Cu metal.

In respect to claims 8-14, it would have been obvious to one of ordinary skill in the art at the time of the present invention to use the conditions of Downey et al. (which overlap those of the applicant) for the precipitation of arsenic from solutions containing Cu and a Fe:As ratio of preferably more than 2.5:1, while minimizing the copper lost from the solution in the process of Krause et al. including series of open continuously stirred tank reactors, pH and temperature adjustment, recycling and seeding, and using a calcium containing material (i.e. limestone) neutralization agent to selectively precipitate ferric arsenate compounds because Downey et al. discloses the conditions to selectively precipitate ferric arsenate from solution and that the solution can be treated for the recovery of copper in a subsequent process.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew A. Anderson whose telephone number is (571) 272-1459. The examiner can normally be reached on M-Th, 7-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571) 272-1465. The

fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MAA  
September 27, 2004

NADINE G. NORTON  
SUPERVISORY PATENT EXAMINER  
